

Claims:

1. An optical switch comprising:

input collimating means;

output collimating means;

a first input optical fiber and a second input optical fiber both attached to the input collimating means for transmitting light beams;

a first output optical fiber and a second output optical fiber both attached to the output collimating means for receiving the light beams;

a pivoting mechanism comprising a prism;

a relay having an internal circuit controlling the pivoting mechanism, the internal circuit having a first operative state and a second operative state;

a first input indicator and a second input indicator that can respectively displaying a first color and a second color; and

a first output indicator and a second output indicator;

wherein

when the internal circuit of the relay is in the first operative state, the first input indicator displays the first color, the second input indicator displays the second color, the pivoting mechanism causes the prism to be placed out of a path of the light beams transmitted from the first and second input optical fibers, the first output indicator displays the first color, and the second output indicator displays the second color; and

when the internal circuit of the relay is in the second operative state, the first input indicator displays the first color, the second input indicator displays the

second color, the pivoting mechanism causes the prism to be placed in the path of the light beams transmitted from the first and second input optical fibers, the first output indicator displays the second color, and the second output indicator displays the first color.

2. The optical switch as described in claim 1, wherein the first and second input indicators each are generally single color light-emitting diodes.
3. The optical switch as described in claim 1, wherein the first and second output indicators each are generally double color light-emitting diodes.
4. An optical switch comprising:
 - a plurality of pairs of input ports;
 - a plurality of pairs of output ports;
 - a plurality of pivoting mechanisms, each of the pivoting mechanisms comprising a prism;
 - a plurality of relays, each of the relays corresponding to a pair of input ports, each of the relays having an internal circuit for controlling a corresponding pivoting mechanism, the internal circuit having a first operative state and a second operative state;
 - a plurality of pairs of input indicators, each of the input indicators in any one pair of input indicators being able to display a predetermined single color representing one of the input ports of a corresponding pair of input ports; and
 - a plurality of pairs of output indicators;wherein when the internal circuit of any one of the relays is in the first operative state, a first input indicator of the corresponding pair of input

indicators displays a first predetermined single color, a second input indicator of the corresponding pair of input indicators displays a second predetermined single color, the corresponding pivoting mechanism causes the corresponding prism to be placed out of a path of light beams transmitted from the corresponding pair of input ports, a first output indicator of a corresponding pair of output indicators displays the first predetermined single color, and a second output indicator of the corresponding pair of output indicators displays the second predetermined single color; and

when the internal circuit of said any one of the relays is in the second operative state, the first input indicator of the corresponding pair of input indicators displays the first predetermined single color, the second input indicator of the corresponding pair of input indicators displays the second predetermined single color, the corresponding pivoting mechanism causes the corresponding prism to be placed in the path of the light beams transmitted from the corresponding pair of input ports, the first output indicator of the corresponding pair of output indicators displays the second predetermined single color, and the second output indicator of the corresponding pair of output indicators displays the first predetermined single color of the corresponding pair of input indicators.

5. The optical switch as described in claim 4, wherein the first and second input indicators each are generally single color light-emitting diodes.
6. The optical switch as described in claim 4, wherein the first and second output indicators each are generally double color light-emitting diodes.
7. A method of identifying optical paths through colors, comprising the steps of:

providing an optical switch with an input collimator means and an output collimator means;

attaching a plurality of input fibers to said input collimator means;

attaching a plurality of output fibers to said output collimator means;

providing switching means moveably positioned between said input collimator means and said output collimator means;

providing an internal circuit relating to condition of said switching means;

providing a plurality of input indicators displaying mutually exclusive different colors corresponding to the input fibers, respectively;

providing a plurality of output indicators corresponding to the output fibers;

displaying said mutually exclusive different colors on said output indicators, respectively, in different arrangements according to the condition of said switching means.